

Study Guides for Faith & Science Integration

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Climate Change and Reasons to Care (Leader's Guide)

Kevin Timmer

Dordt College, kevin.timmer@dordt.edu

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A Leader's Guide to

Climate Change and Reasons to Care

An introduction to the climate change discussion based the video series Global Weirding by Katharine Hayhoe

Dr. Kevin Timmer
Dordt College, Sioux Center, Iowa
Summer 2018

How to Use This Material?

This introduction to the climate change controversy and a Christian response to it is organized around a video series produced by Dr. Katharine Hayhoe and PBS. The study is structured into 7 modules, each of which addresses a particular facet of the issue. Each module contains links to 3 - 5 short (5- 8 minutes each) YouTube videos and associated questions that can be used to get discussion started. The modules are designed to be worked through as a group and do not require preparation ahead of the meeting. Depending on the extent of the discussion, each module should require approximately 30 – 60 minutes to complete. Modules may be broken into smaller portions if desired.

This study is intended for **informal** discussion, such as that of a Bible study or small group. The theme presented in each module may be unpacked on its own, but we hope that the entire study may be useful to the interested reader (leader and participant alike). The study is designed for **high school students, college students, and post-college adults** with an interest in how science and the Christian faith interact but others may be interested as well. As you read, it is hoped that you will come across (and come up with) questions which challenge you, both in understanding your personal faith and in understanding science.

Planning and Preparing for a Session

The material assumes that each session will last for about 30-60 minutes depending on the extent of the discussion and in-class research. Please note the questions provided are intended to be discussion starters and should not restrict the conversation.

Equipped for Service

This “Leader’s Guide” is meant to **equip leaders** of these small group discussions and therefore suggested answers are given for a few of the questions that may not be addressed directly in the videos. While these videos serve as a good introduction to the issue from a Christian perspective, there may be participants that are interested in knowing more. The following resources are recommended:

1. Environmental Science: Toward a Sustainable Future, 13E by Richard T. Wright and Dorothy F. Boorse. (This is a great college textbook on Environment Science with a dedicated chapter on climate change.)
2. skepticscience.com (This highly recommended website has a ton of information with much of it devoted to answering questions and clearing up misinformation about climate change.)
3. There are also many other videos and interviews by Katharine Hayhoe that you may find interesting and helpful.

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Module 1: Introduction to Katharine Hayhoe and Global Weirding

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

Opening definitions and questions to set the stage for the videos.

Weather: the day-to-day variations in temperature, air pressure, wind, humidity, and precipitation at a particular location.

Climate: a general description of the long-term (20+ years) average temperature and rainfall conditions of a particular region.

Global Warming: the observed gradual rise of the earth's long-term average temperature.

Climate Change: a change in average long-term global or regional climate patterns caused by natural and by human factors.

1. What do you know about climate change and what is your opinion about it? Is the climate changing and what is causing it? Why do you hold to this view?
2. What does the rest of your family think about the issue? Your friends? The people at your church?

You Tube Video #1: "Global Weirding with Katharine Hayhoe"

<https://www.youtube.com/watch?v=xdpfK7qyLRM> (3m 1s)

1. Dr. Hayhoe mentions some unusual recent weather events, have you experienced any unusual weather in your area?

2. Why do you suppose it is called Global Weirding?

3. What does it mean that an issue has become politicized?

You Tube Video #2: "Welcome to Global Weirding"

<https://www.youtube.com/watch?v=Nvr8WJwKclA> (2m 13s)

1. What is the myth regarding people who are concerned about climate change?

2. Why should Christians care about the creation?

[Suggested Answer: God commands us to. God loves and sustains His creation and calls us to bear His image by being responsible caretakers or stewards of creation (see Genesis 1 and 2). Jesus instructs us to love our neighbor, including future generations, and a critical part of this requires caring for the creation that they depend on. There are also many other good reasons.]

You Tube Video #3: "Katharine Hayhoe: Climate Change Evangelist"

<https://www.youtube.com/watch?v=T1eGJLqxxKQ> (2m 49s)

1. Do you think there is a necessary conflict between science and faith?

2. How does fear get in the way of love? Can you think of times when you have allowed fear to get in the way of love?
3. Can true (authentic) love be disconnected from action? Why or Why not?
4. Jesus instructs us to love God above all and to love our neighbors as ourselves. Who are our neighbors?

Module 2: Why do we care?

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

You Tube Video #1: “The Bible doesn’t talk about climate change, right?”

https://www.youtube.com/watch?v=SpjL_otLq6Y (5m 51s)

1. What does it mean to be a steward? To whom are we responsible?
2. What biblical passages do Christians trying to discredit climate change science often use inappropriately? What is wrong with their arguments?
3. How do you understand the relationship between God’s sovereignty and our responsibility to care for the poor and for the creation?
4. Why do you think many Christians are opposed to climate change?

You Tube Video #2: “Religion has nothing to say about climate change, right?”

<https://www.youtube.com/watch?v=W53uRqITk2I> (6m 31s)

1. What kinds of things can science tell us? What is science unable to tell us?

2. How do science and faith integrally shape our understanding of this issue?

You Tube Video #3: "Climate change is really only affecting polar bears, right?"

<https://www.youtube.com/watch?v=asWraTflqq0> (6m 20s)

1. What are potential problems caused by climate change for cities, agriculture, human health, and of course, polar bears?

You Tube Video #4: "What happens in the Arctic doesn't really matter, right?"

<https://www.youtube.com/watch?v=KzOV3mTgsaM> (7m 22s)

1. Why does Dr. Hayhoe refer to the Arctic as the "canary in the coal mine?"
2. What are the reasons given for being concerned about the changes occurring in the Arctic?

Summary Discussion Question

1. Why should Christians care about climate change?

Module 3: What do we know about climate change?

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

You Tube Video #1: “Just how long have we known about climate change anyways?”
<https://www.youtube.com/watch?v=XpgBto89i38> (6m 1s)

1. How does the earth stay warm? Why is this process sometimes referred to as the greenhouse effect? (You may have to look this one up on the internet.) What are the three main greenhouse gasses that contribute to earth’s “blanket?”
2. What have scientists identified as the cause of the cycle of ice ages on earth? Where are we currently in the ice age cycle?

You Tube Video #2: “How do we know that this climate change thing is even real?”
<https://www.youtube.com/watch?v=m50bYJX2i6I> (6m 22s)

1. How sure are scientists that the climate is warming and humans are causing it?
2. If the science is so clear, why do you think so many people reject the reality of human caused climate change?

3. What does it mean for a community to be polarized? Do you agree that the United States is becoming more polarized? How has this polarization affected the climate change discussion?

You Tube Video #3: “All the extreme weather we have been having lately isn’t anything new, right?” <https://www.youtube.com/watch?v=LT4aZzjbl3w> (5m 55s)

1. What impact does climate change have on the normal variation in the weather at a particular location?
2. Discuss your local weather patterns. Has your area experienced any weird or extreme weather events lately?
3. It is important to understand that even though the average temperature of the earth is getting warmer that does not mean that everyone will experience warmer weather every day. There will continue to be variation in the day-to-day and year-to-year weather. Some winters will still be colder than average and some warmer. However, as the average temperature of the earth increases, we are likely to continue to see shifts in long-term climate patterns with some areas getting hotter, dryer, cooler or wetter on average. How can the long-term nature of the changes contribute to people’s unwillingness to accept the reality of the situation?

You Tube Video #4: “This is all just a part of natural cycles, right?”

https://www.youtube.com/watch?v=k5_zpjerQFo (8m 7s)

1. List natural causes of climate change in the past. Explain why each of these cannot explain the global heating that has been observed during the last 100 years.

You Tube Video #5: “So why is two degrees the magic number?”

<https://www.youtube.com/watch?v=RhBBH8V3NPc> (6m 37s)

1. Why do you think it is important to start limiting carbon dioxide emissions as soon as possible?
2. Why is 25 years considered a short amount of time in this discussion?

[Suggested answer: The world is very dependent on energy that comes from burning fossil fuels. It will likely take a very long time to smoothly transition from these sources to renewable energy. Also, the carbon dioxide that we put into the atmosphere today will likely remain there for a very long time (100 – 300 years), contributing to additional warming the entire time.]

Module 4: Misinformation!

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

The following videos touch on a few of the myths related to climate change. A more comprehensive and up-to-date treatment can be found at [skepticalscience.com](https://www.skepticalscience.com/) (<https://www.skepticalscience.com/>).

You Tube Video #1: “Is a warmer world a better world?”

<https://www.youtube.com/watch?v=1SAqdG3gJH0> (6m 22s)

1. What reasons does Dr. Hayhoe give for why it is important for us to maintain a stable climate similar to what we have been experiencing for the last few thousand years?
2. What are the concerns associated with increasing the global temperature? Which potential impact is most concerning to you? Why?

You Tube Video #2: “Climate change, that’s just a money grab by scientists, right?”

<https://www.youtube.com/watch?v=lq8Jo9QN0qA> (7m 28s)

1. Describe the technique of discrediting the messenger to undermine people’s willingness to listen to the message. How is this same method used in political campaigns?

You Tube Video #3: “Plants and animals can adapt to climate change, right?”

<https://www.youtube.com/watch?v=CLtFwUTrE4E> (6m 51s)

1. Why should Christians care about animal extinction?

You Tube Video #4: “The oceans are so big surely climate change won’t affect them, right?” <https://www.youtube.com/watch?v=6iUWGvtssME> (7m 59s)

1. List the harmful affects to oceans and their ecosystems caused or potentially caused by increased temperature and carbon dioxide concentrations.

Module 5: What can we do? - First Steps

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

You Tube Video #1: "I'm only a kid, I can't do anything about climate change, right?"
<https://www.youtube.com/watch?v=PsIL9WC-2cQ> (6m 58s)

You Tube Video #2: "I am just one person, what can I do?"
<https://www.youtube.com/watch?v=Q48BvprCFr0> (7m 31s)

1. List the action items given in the videos and then as a group brainstorm additional specific ideas of how you can have a positive impact by addressing climate change in your community. Pick the best ideas, develop a plan, and follow through!
2. Calculate your household's carbon footprint using the carbon footprint estimator at nature.org. How does your footprint compare to the world average of 4 tons per person? What are some realistic ways that you could reduce your footprint? (If you are interested in doing a comparison, other carbon calculators can be found online at the EPA (epa.gov) and at Cool Climate Network (<https://coolclimate.berkeley.edu/calculator>)
3. Investigate how to buy carbon credits to help offset your carbon footprint at ClimateStewards.net. How much would it cost per year to offset your entire carbon footprint estimated in question 2?

4. Research the Citizen Climate Lobby's "Carbon Fee and Dividend" plan to reduce greenhouse gas emissions (<https://citizensclimatelobby.org/carbon-fee-and-dividend/>) How would raising the price of carbon help curb emissions? What happens to the money that is collected for the carbon fee (or carbon tax)? What do you think of this idea? What do your representatives think about climate change and carbon fees?

Module 6: What can we do? - More substantial changes

Terms: As you watch these videos, write down any unfamiliar words and define them together as a group using the internet if necessary.

You Tube Video #1: "The easiest ways to fix climate change is population control and going vegan - right?" <https://www.youtube.com/watch?v=KwejlpxK7ls> (7m 25s)

You Tube Video #2: "Renewable energy is way too expensive, right?" <https://www.youtube.com/watch?v=3pxX19FVeaQ> (6m 28s)

1. What do you think about the possibility of switching to 100% renewable energy? Electricity from solar and wind is often less expensive than from coal and natural gas, however the sun isn't always shining and the wind isn't always blowing. To help solve this problem engineers are working hard to develop effective ways of storing renewable energy so that it is available when we need it. List some of the storage options and describe how they work. Do a little internet research and see if you can add other methods to the list.

You Tube Video #3: "Does messaging with fear really work?"

<https://www.youtube.com/watch?v=AeqAoozVyfQ> (8m 06s)

1. Do you think a message of hope is more effective than a doomsday message? Why or why not? Do you see similarities in how the gospel is presented?

Module 7: Wrap-up

Terms: As you watch this video, write down any unfamiliar words and define them together as a group using the internet if necessary.

This last video is a bit longer but does a great job of summarizing much of what has been addressed in this video study of climate change. It is an interview of Dr. Katharine Hayhoe by Bill Moyers on his show Moyers and Company (PBS).

Video #1: "Climate Change: Faith and Fact" as seen on Moyers & Company (PBS)

<https://www.youtube.com/watch?v=iMJKkweZN6w> (23m 15s)

1. God certainly has the power to reverse the effects of global warming but we are also responsible for our choices. We are called to place our hope in God alone and not in our own abilities or efforts but we are also called to act by loving our neighbors and by caring for the creation. Discuss the tension that exists between these two.
2. Each person should spend a few minutes thinking about their future. List the top five things that you hope or dream will be part of that future? Could climate change threaten any of them directly or indirectly? How so? Share with the rest of the group.
3. How could climate change undermine the economy?
4. Now that you have completed this video-based study, what do you think about climate change and our Christian responsibility? Are you convinced that it is caused by humans and that Christians should be leading the way to help address the issue? Why or Why not?